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DEVOTED TO THE PRESERVATION OF EVERY KIND OF USEFUL INFORMATION RESPECTING THE STATE.

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CENTRE COUNTY.

From the Bellfonte Patriot, Feb. 23, 1826.

Mr. Petrikin,—Having observed a communication in a late Huntingdon paper, relating to the establishments for the manufacturing of *Iron* in that county, I deem it proper to furnish for publication, in your paper, a list of the Iron Manufactories in Centre County: they are as follows:

Pennsylvania Furnace:—Situated about 20 miles from Bellefonte, and on the margin of the county; the furnace, stack, nearly all the building, ore bank, coaling ground, are within Centre county, and the supplies of provisions, &c. are principally derived from this county. I am thus particular, as the Huntingdon writer claims this furnace. It makes about 1500 tons of pig metal annually. It is the property of Messrs. Stewart and Lyon.

Tussey Furnace:—Situated about 14 miles from Bellefonte at the foot of Tussey mountain. This furnace has been out of blast for some years, but is capable of making upwards of 1000 tons of pig metal annually. It is also the property of Messrs. Stewart and Lyon.

Centre Furnace:—Situated 9 miles from Bellefonte, directly opposite the end of Nittany mountain. This furnace has not been in operation for a number of years; but preparations are now, and have been for sometime, making by Messrs. Miles and Green, and they expect to have it in blast in May next. It is capable of making 1500 tons pig metal annually.

Spring Furnace:—Situated about 4 miles from Bellefonte, on Spring creek. This furnace is capable of making upwards of 1000 tons pig metal annually. It is the property of Gen. Benner.

Logan Furnace:—Situated 3 miles from Bellefonte, on Logan's branch of Spring creek. This furnace makes about 1200 tons of pig metal annually. It is the property of Messrs. Valentine and Thomas.

Eagle Furnace:—Situated about 5 miles from Bellefonte, in Bald Eagle valley, is capable of making 1200 tons of pig metal annually. It is the property of Roland Curtin, esq.

Mount —— Furnace:—Situated about 7 miles from Bellefonte, in Logan's gap of Nittany mountain, was built the past season, and will be in blast in a few days. This furnace is expected to make 1200 tons of pig metal annually. It is the property of Judge M'Kinney.

Clearfield Furnace:—Situated on the Susquehanna river, and immediately within the line of Clearfield county. This furnace is capable of producing 1200 tons of pig metal annually. A cupola is attached to it. These works may be fairly estimated as belonging to this county, as nearly all the supplies necessary for carrying them on are drawn from it. The distance from Bellefonte is about 24 miles; and they are the property of P. A. Karthaus, esq.

Washington Furnace:—Situated 15 miles from Bellefonte, on Fishing creek. This furnace has not been in operation for some years, but enterprising men have been lately examining it, and it is believed it will be in full operation the next or following season. It is capable of making 1200 tons of pig metal annually. It is the property of Mr. Henderson.

Phillipsburg Forge:—Situated 29 miles from Bellefonte, on the waters of Big Mushannon, makes about 200 tons annually. This enterprising company have, also, a manufactory for making *wood screws*, which are in every way superior to those imported. They are made with great facility, and in great quantities. To the screw manufactory is attached a cupola. They are collectively the property of Hardman Phillips, esq. and Co.

Rock Forges:—Situated about 4 or 5 miles from Bellefonte, are capable of making 600 tons of bar iron annually. There is also a *Rolling Mill*, for rolling boiler, nail, slit and sheet iron, and a *Nail* manufactory connected with these works. The property of Gen. Benner.

Bellefonte Forge:—Situated half a mile from Bellefonte on Logan's branch of Spring creek. Messrs. Valentine's and Thomas, the owners of this forge, are at present engaged in erecting a new forge on the same stream, a short distance above their present one, which is expected to be in operation in June next. They have also, erected a

Rolling Mill for rolling bar iron from the bloom; connected with these forges, they expect to make 800 tons of bar, bolt, boiler, nail and slit iron annually.

Milesborough Forge:—Situated one mile and a half from Bellefonte, in the gap of Muncy mountain, on the waters of Spring creek. This forge is capable of making 400 tons annually. Connected with it, is a

Rolling Mill for rolling boiler, sheet, nail and slit iron, also a

Nail Manufactory:—all of which do a considerable business. They are owned collectively by Gen. Miles and Co.

Eagle Forge:—Situated 5 miles from Bellefonte, on Bald Eagle creek, is capable of making 400 tons of bar iron annually. It is the property of Roland Curtin, esq.

Washington Forge:—Situated 15 miles from Bellefonte, on Fishing creek, is capable of making 300 tons of bar iron annually. This forge has not been in operation for a few years past, but it is not much out of repair, and without doubt will be started shortly. It is the property of Mr. Henderson.

Harvey's Forge:—Situated about 20 miles from Bellefonte, on Fishing creek, is capable of making 400 tons of bar iron annually, This forge is in a similar situation with Washington forge.

From the above it appears, the iron works in this county are capable of making annually, eleven thousand tons of pig metal, and three thousand one hundred tons of bar iron; and this quantity, no doubt, will be greatly increased, by increased facilities of transportation to market. The iron is but a part of the exports of this county. I believe no county in the State, of equal population, exports as great a quantity of flour and wheat, besides various other articles.

A Citizen of Centre County.

We are informed that some of the canalmen, a few days since, upon one of the sections, a short distance below Sunbury, Pennsylvania, disinterred the bones of several human beings, in a tolerable state of preservation. They were deposited from six to eight feet below the surface, and directly over them, there grew a white oak tree of more than usual size.

It is also said that a pair of *nippers* or *pincers*, of singular formation, was found with them.—*Emporium.*

FOSSIL BONES.

Extract of a letter from Joel Lightner, Esq. dated Sowlsburg, Lancaster county. Pa. Nov. 30, 1816, to the Rev. Mr. Shaffer, of New York.

My absence from home, and being otherwise much engaged, prevented me from writing sooner. It is with pleasure that I undertake to give you all the satisfaction that I am capable of giving respecting the circumstances connected with the discovery of certain fossil bones, found on my land; their dimensions, locality, manner in which they lay deposited, nature of the earth in which found, &c.

Five or six years since, I discovered upon a bank of limestone, within five rods of the Philadelphia and Lancaster turnpike road, the appearance of handsome flag stones, standing partly on their edge, inclining somewhat to the north, with their ends north-east and south-west, at which time and since, we have occasionally taken several of them out; and as they proved to be valuable for sills, flags, &c. and the demand considerable, I concluded to have the quarry completely opened, in doing which, it was necessary to begin at the foot of the hill or bank, and to dig on a level until we could reach the stone. This work I commenced with a few hands in August last; and after having penetrated twenty-four feet into the bank, on a level, through a rich black earth, intermixed with a small piece of limestone (perpendicular depth about eight or nine feet) we came to a body of hard clay, also intermixed with small pieces of limestone, materially different from the earthy matter dug up on entering the bank, being a yellowish cast, abounding in some parts with calcareous spar, and so extremely hard that it was with difficulty to be entered with a pick or mattock.—After having worked into the body of this stratum of clay, limestone, &c. about four feet and a half from its surface, and within a few inches of the rocks or flag stones, (the object of our labour,) a large bone was found, supposed to be the upper bone of the fore leg of some large animal, the lower part appeared to have been broken off, as nothing of the joint could be seen. The upper part was to be seen in its full size, but being much decayed, and the clay and small stones so very hard pressed in and about it, that the greater portion of it could not be kept together, leaving only a small spongy end to it, and that also with clay and the small pieces of limestone firmly united with it.

The length of the bone, as much as I was able to save of it, is fifteen inches, and measures ten and a half inches around the smaller solid part; the circumference of the thicker or upper part is twenty-two inches, but the thickest part could not be preserved, being so much decayed, and probably there might have been eight or ten inches wanting.

This bone was found lying partly in a horizontal position, the thick end within three or four inches of the rock's termination, and appeared to have been thrown there promiscuously, as well as the pieces of limestone around it, which are evidently fragments of larger ones.

Within three or four feet of the same place, in a black earth or mould, appearances of *other large bones* presented themselves, but they were so much decomposed that they could not be preserved entire, resembling pulverised chalk, or slaked lime.

I have put up specimens of the different earths as mentioned above, also of the rocks and stones found near the spot where the bones were discovered; and also, a piece of the bone which I intend to forward to you by the first safe opportunity.

Since the discovery of these bones on my land, I have been informed that many years since, an extraordinary large tooth (grinder) was found in a spring about two miles from my quarry, but I am not able to learn what has become of it.

CANAL DOCUMENTS.

No. 9. To the Board of Canal Commissioners of the State of Pennsylvania:

Gentlemen—In conformity with the instructions of the board, directing me "to make an examination, survey and estimate, of a route for a rail-way from Philadelphia through Chester and Lancaster counties, so as to connect by the nearest and most eligible route, with the Eastern Division of the Pennsylvania canal," I have the honour to present the following as a part of my report, upon the subject.

Dividing the whole route surveyed into two divisions, I shall consider the summit on Mine ridge, at Henderson's, as the point separating the eastern from the western, and proceed to describe, first, the various graduations of the western division.

Western Division.

Commencing at the level picket at the summit in the Gap of Mine ridge at Henderson's, which was formerly ascertained to be 588 feet above the tide waters of Schuylkill river, a level was carried from thence along the west face of the ridge, graduating the line as it progressed at the rate of 27½ feet to the mile, which was considered as the maximum number in the various experimental lines which were traced in the course of this preliminary survey.

In the first reconnoisance the level was carried to a picket at Mr. Linville's which is 189½ chains from the Gap, but finding at this point that the ground, on the south side of Loudon run would not be favorable towards the Pequea creek, which it was our object to cross, we returned to another picket nearly opposite Aby's barn, which was 129 chains from the Gap, and carried a line of levels towards the Lancaster turnpike road, which we crossed, and then continued the same to Williamstown, passing the latter place to the north, through Judge Lighter's property, and crossing Pequea at Frantz's mill pond, thence down the north bank of that stream to a bluff upon the creek, opposite to Mr. Whitmer's field, which presented a favourable position for crossing the stream with a bridge, and which was 19 feet below the Gap. From the latter point we crossed the stream, and graduated an ascending line 27½ feet per mile, along the side slopes of Eshelman's run, to a picket east of the Black Horse tavern, on the Strasburg road, and thence to Linville's; but the ground over which this line passed, was both rough and circuitous, and exceedingly unfavourable for the formation of a road. An off-set level was also carried from the same line near Paradise, which extended across Eshelman's run, at his mill pond, and was united with the Williamstown line. On this line, were it not for the expense of crossing Eshelman's pond, the ground would be favourable. Towards the fork of Brishborne's run at a level picket in M'Caslin's field, about a half mile north of the bluff at Whitmore's, another line of levels was extended up the Pequea, which crossed that creek below Hershey's mill, and from thence following the north branch of Huston's run, the line was finally united with the Gap summit. The exploration of these various lines, resulted in the opinion that the most favourable point on the Pequea to cross it with a road, was at Eckert's mill; from which to the Gap, we shall consider as the first section of the line.

Section 1, From the Gap to a point west of Strasburg road and Aby's barn, the distance is 162 chains, cutting down the summit ridge 30 feet, the descending graduation will be 29.04 feet per mile, and from thence to Pequea, at Eckert's mill, 340 chains, and descending graduation 27½ feet per mile. Bridge at Pequea 28 feet high. There are three ravines on this section.

Section 2, From the bluff at Eckert's mill, to the level picket in M'Caslin's field, the distance is 125 chains, and line nearly level.

Section 3, From M'Caslin's through the farms of John King and Pederkein to the lane leading to Weaver's

house, the distance is 136 chains, and the rate of graduation per mile is 7.36 feet ascending. Leaving Weaver's house to the north, the line of road will pass over favourable ground, through the farms of Mr. Porter and Abram Reese, then following a northwest direction, and crossing the old Lancaster road, a short distance west of the Bird-in-hand tavern, it goes through the orchard of J. Conrad, and strikes Mill creek at the breast of the dam of Daniel's mill-pond.

Section 4, The distance from Weaver's lane to this point, is 284 chains, and rate 13.84 feet descending. The position here is exceedingly favourable for a bridge. On both sides the limestone is upon the surface, but the bluff upon the west side at Gibbin's is more precipitous than that upon the east; the height of the bridge here will be 32 feet, and its length of platform 50 feet. Leaving the Mill creek at Samuel Gihbon's bluff, the line is traced along the south side of the ravine leading to Jesse Guilbert's farm; from thence to the Smoketown road, which is the summit of the ridge dividing the waters of Mill creek from the Conestoga river.

Section 5, The distance of this is 84 chains, and by cutting the summit at Guilbert's 9.28 feet, the ascending gradation will be 18.08 feet per mile, graduating from this summit an easy descent along the head branches of Landis's run, through the lands of Kirk, Hare, Buckwalter and Landis, intersecting the Horse-Shoe road. The section terminates at the distance of 186 chains in a lane, between Landis's and Beckerman's houses, and descends at the rate of 7.18 feet per mile.

Section 6, The graduation of the next section to the point from whence we must cross Conestoga river, is at one maximum rate. If from the summit near Guilbert's the line had taken the north side of Landis' run, a much less expensive bridge across the Conestoga would have been obtained at the bluff above the junction of that run with the river. But the continuation of the line westward from the Conestoga would have passed over the ridge, dividing the western Landis' run from Brubacker's about 3 miles north of Lancaster, increasing the distance of the road and rendering the descending graduation towards Little Conestoga, beyond the limits of this survey. Returning to our level pickets in the lane near Beckerman's, the line winds to avoid inequalities of ground through Landis' woods, and perforating a ridge 8 or 9 feet high and 10 chains base, keeping the gentle sloping ground as far as Demuth's mill, it then follows the summit of the ridge, south of J. Landis' house and reaches a point nearly opposite to the precipitous bluff at Mr. Hall's mansion.

Section 7, From this point the bridge will keep the descending ridge for 840 feet, with a mean height of 12½ feet and thence crossing the stream to the opposite rocky bluff, in the distance of 534 feet, with a height of 49½ feet. The distance of this last section is 146 chains to the commencement of the bridge, and the descending graduation 27½ feet per mile.

Section 8, From the Conestoga bridge the line is traced along the gentle sloping ground of Hardwick's run, passes south of Hall's residence, crosses the New Holland turnpike to the north of E. Colman's and enters the northeast corner of the city of Lancaster, thence it crosses the Reading road at Stambach's, and terminates in a lane leading to D. Mayer's house, the summit of the ridge between Hardwick's and Swar's runs, must be cut down 794 ft and the ascending graduation will then be 21.12 feet per mile and the length of the section 136 chains, thence following nearly the direction of the lane through the farms of M. and D. Mayer's, and passing the residence of S. Sheffer on the Manheim road which we leave upon our right, we reach our level picket in a lane near the residence of J. Sharp. The length of this section is 123 chains, and the rise only 87-100ths feet, or nearly level.

Section 9. From the summit on the Mine ridge to the level picket at Sharp's, with the exception of 3 or 4 ravines, the others that the line crossed were of moderate breadth and depth.

Section 10, Containing the level from Sharp's and crossing the head of Brubacker's run, the line was then traced along the gentle slope bank of that run to a favourable point on a bluff of Little Conestoga creek above Kinsley's oil mill, where the creek is crossed with a bridge 402 feet in length and 24 in height. The distance from Sharp's to the bridge is 145 chains and the descent at 8.4 feet per mile. Considering it expedient to examine two routes from Lancaster to the Susquehanna, and as the limited time for this survey would not permit us to survey both with the instruments then in use; after obtaining an additional one and organizing another party, I proceeded with the level myself and traced a route in the direction of Columbia. At the same time Mr. Haines continued the line from the west bank of the Little Conestoga creek, along the north edge of Kauffman's run, towards Mount Joy, and thence to the Susquehanna, a general description of which, taken from the level book, will be given in the sequel to this report.

At the termination of the second station from Little Conestoga to the Mount Joy route, the level was carried across Kauffman's run and Harrisburg turnpike, to the east of the Buck tavern on sloping ground to a point opposite Reigart's mill, and from which the ground is favourable to cross the Little Connestoga creek, north of Swar's run, continuing on the north margin of Swar's the line is united with our level picket in the lane at Sharp's.

Section 11, The height of the bluff upon the west side of the creek, was considered sufficiently high for a 27 feet bridge, and the distance from the level picket at Sharp's to the creek is 120 chains (estimated by protraction) and the graduated descent 18.16 feet per mile, and to the picket west of Reigart's mill the distance is 80 chains, (estimated by protraction) and the ascent 27.33.

By crossing the Conestoga opposite Reigart's mill, several ravines at the head of Brubaker's run, are avoided, which would require heavy embankment. Upon a future examination, it would be advisable to cross the creek below Swar's in the direction of Hempfield, and if found practicable, the line of rail way to the river, would then be shorter than the distance by the turnpike to Columbia.

Section 12, Returning to our level picket at the termination of the last section, the line pursues a southernly course through Jacob Mayer's farm, then east of Hempfield crossing the Marietta turnpike, then west crossing a narrow branch at Jonathan Leaman's, and terminating the section in Habacker's field.

Section 13, At Jacob Mayer's there will be some embankment, and north of that a small cut in a narrow ridge. The ascending graduation per mile in this section, is 16.08 feet and the distance 213 chains.

Section 14, From Habacher's the line crosses the Columbia turnpike, near Peltz's tavern, and runs westwardly to a ridge north of Senner's house. The distance is 98 chains, and the ascending graduation per mile is 18 feet. The ridge north of Senner's must be cut 13 feet, at a base of 30 chains.

Section 15, Leaving the ridge at Senners, the level is carried a short distance north of Kauffinan's house, then it passes over gentle sideling ground, and after crossing Hershey's mill pond at the breast of the dam, the section terminates north of his house; the distance is 66½ chains and the ascending rate per mile is 5.19 feet; on this section the bridge at Hershey's is about 38 feet high and 294 in length.

Section 16, From the level picket at Hershey's, the line is traced over favourable ground to a ridge in Jacob Seitz's woods, dividing the waters of the west branch of little Conestoga from Strickler's run; distance 88¾ chains and ascending graduation 16.16 feet to the mile. This summit must be cut 7.59 feet.

Section 17, From Seitz's the line descends along gentle sideling ground for 89 chains, at the rate of 13.68 ft. per mile, and this section terminates at a point south of Backman's mill, and about 16 or 17 chains east of Millinger's ravine. The level from this point was carried along the face of the side hill to the termination at the river, a few yards below Strickler's mill.

Section 18, It is proposed to place near the position east of Millinger's ravine, a stationary steam engine and to descend 130 feet by an inclined plane to the meadow of Strickler's run, from thence to the river bank, the distance is 150 chains, and descending gradually 18 feet per mile along its margin to Columbia the ascent is very gradual.

The whole line from Lancaster to Columbia, presents fewer difficulties in its course than any other portion of the same extent, from the Susquehanna to Philadelphia. From Columbia it is proposed to extend the line along the margin of the river, passing through Marietta to Bainbridge, and terminating it at Hopkin's dam 4 miles below Swatara. On this route excepting about ¾ths of a mile around the base of Chickey's rock and the same extent between the mouth of Conoy creek and Bainbridge, the ground is exceedingly favourable.

Section 19, The graduation can be regulated at a rate not exceeding 3½ feet per mile, and the bridge across Conoy and Chickesalunga creeks, will not together amount to more than 100 feet in extent. The distance from Strickler's to Hopkins 15½ miles, should it be deemed necessary to avoid a fixed steam engine at Millerger's, another line may be explored to the north of Columbia. The ground over which it will pass appears favourable. In descending the river from the mouth of Chickesalunga creek by raising very gradually along the base of the abovementioned rock until it is cleared, then continuing along the foot of the slope of Chesnut ridge you gain a ravine, the summit of which immediately north of Mount Pleasant village. Cutting through this ridge and continuing the line along another ravine, it finally unites with the level picket, in Habaker's field.

I now proceed to state generally the character of the ground, on the above line explored by Mr. Hains towards Mount Joy, and thence to Hopkin's dam on the Susquehanna river, as taken from his level book. From the level picket on the west bank of little Conestoga creek, above Kinsley's oil mill, along the north margin of Kauffman's run to the summit near Kauffman's lane, which divides the waters of the little Conestoga and Chickesalunga creeks, the distance is 4 miles 27 chains. By reducing this summit 12 feet at a base of 30 chains the ascending graduation per mile 16.10 feet. The line on this section passes over several small runs and some considerable ravines.

From the summit at Kauffman's to the east bank of big Chickesalunga creek, following the north margin of Hershey's run and Muddy creek, the distance is 2 miles 54 chains, and descending graduation 16.25 feet per mile: this section is rough: Bridge across Chickesalunga 48.45 feet high above Greider's mill.

The next section ascends to the ridge dividing the waters of big and little Chickesalunga creeks, reducing the summit 12 feet at a base of 25 chains. The graduation will be 10.82 feet per mile, and distance 1 mile 12 chains.

Descending from the latter summit to little Chickesalunga creek near Neissley's ford, the creek is crossed with a bridge 52 1-3 feet high. The length of the section is 64.4 chains, and graduated descent 15.40 per mile.

From the west bank of little Chickesalunga to the summit of the ridge dividing from Share's run, the distance is 1 mile 26 chains, and reducing the ridge 8 feet at a base of 15 chains the graduated ascent will be 15.71 feet per mile.

Thence to Share's run above Zook's spring the distance is 57.7 chains, and the descending graduation 12.97 feet per mile—Share's run will require a bridge.

From Share's run the ground rises for 1 mile 10 chains, and the rate per mile of graduation 13.83 feet; crosses 2 ravines. Thence ascending 1 mile 23 chains and crossing two ravines, the graduation is 13.4 feet per mile.

Continuing still to rise for 1 mile and a half chain, the graduation for this section is 16.61 feet per mile, and it crosses one ravine.

From the termination of the last section the line descends to the east bank of Conoy creek, and the distance it 1 mile 77 chains; the descending graduation per mile is 14.13 feet. To straighten the line of this section, it is necessary to cut 10 feet for 40 chains. Bridge at Conoy creek 30.44 feet in height—length about 700 feet. Keeping along the face of the ridge of Conoy valley and running nearly parallel with the creek for 70 chains, the line descends 2.82 feet—but for a very deep ravine on this section, the line might have been kept up in order to diminish the deep cutting in the next section.

From the termination of the latter section, following the face of the same ridge towards Bainbridge, the line afterwards runs parallel with the river ¾ths of a mile from it and terminates at the lower end of Hopkin's canal, about a mile below its entrance from the river. The distance is 4 miles 36 chains, and descending graduation 23 feet per mile—The length of deep cutting on this section is 96 chains and 25 feet in depth.

In closing the preliminary descriptions of and observations on the western division of the Schulkill and Susquehanna railway, I shall reserve the more particular remarks and views upon the subject to accompany the proposed method for the formation of the road and the estimate of its expense.

I now return to the summit of the main ridge at Henderson's, and proceed with the description of the eastern division of the line.

Sec. 20, Reducing the summit at the gap by a cut of 30 feet and at a base of about 30 chains, the line is graduated on the eastern margin of one of the branches of Octoraro creek and passes south of Mr. Moore's residence; then winding gradually along the gentle sloping margin of the meadow, it enters the lands of Messrs. Walker and Coats, thence crossing the Newport turnpike and following the same edge of meadow, it passes through the farms of the estates of Dickerson and Moore, and terminates at a favourable bluff for crossing the middle branch of Octoraro, above Morris' mill pond—The length of this section is 235 chains, and the graduation descending 20.32 feet per mile, Bridge across Octoraro 400 feet in length and 25 in height.

Section 21, From Moore's the line continues along the face of the slope bank of the mill pond, and then enters upon gentle sideling ground of the great Chester valley, keeping north of the valley it terminates in a bluff, below the dam of Cloud's mill pond, on the eastern branch of Octoraro creek. The distance from Moore's to Clouds is 150 chains and the rate per mile of ascending graduation is 14 feet—bridge across Octoraro 18 feet high, length of bottom 314 feet.

Section 22, Leaving Cloud's mill the line keeps the southern slope of the north valley hill crossing in its course some small ravines, and after intersecting the valley road, it curves southwardly to avoid deep cutting, to a middle point in the summit ridge at Smith's, between Octoraro and Buck run. The length of this line is 231 1-3 chains, and the graduated rise per mile is 7.92 feet; Octoraro summit is lessened by a cut of 10.23 feet.

Section 23, As we leave the last mentioned ridge, the line returns towards the sloping face of north valley hill, crosses a branch of Buck run and Strasburg road at Park's tavern, and Buck run east of David Truman's it still continues over favourable ground to the ridge between the waters of Buck run and west Brandywine, where the section terminates. The distance tween the two summits is 242 2-3 chains, and the graduation per mile descending is 23.04 feet. The latter summit must

be cut 30.38 feet at a base of 23 chains; the bridge over Buck run will be small.

Section 24, From the Buck run summit to west Brandywine at Coatsville, on the south face of the north valley hill, the ground generally has a gentle declination to the valley, the line crosses several narrow branches or spring runs. It intersects the Lancaster turnpike near Coatsville, and after leaving this road the side hill as the Brandywine is approached, becomes steep. The length of this section is 257 chains and the graduated descent is 27½ feet per mile. The bridge across the Brandywine by this graduation, will be 70 feet high and 640 long, by cutting the ridge near Buck run 10 feet more, it will reduce the graduation to 24.6 feet per mile, and bridge to 60 feet in height.

Section 25, From west Brandywine still continuing along the same face of the valley hill, the section ends near Gardiner's house at a ridge dividing the waters of west Brandywine from those of east Brandywine, cutting the ridge here 3.55 feet, the line will be level and its length 150½ chains. Should it be expedient however to lessen the height of west Brandywine bridge 10 feet, and to cut the ridge 8.55, the ascending graduation per mile to Gardiner's would be 2.64 per mile.

Section 26, Extending the graduated line along the base of North Valley hill, it crosses Beaver creek near Mr. Downing's, which will require a small bridge and embankments; and continuing east intersects another branch, and the Harrisburg turnpike. The section terminates on the face of the slope bank of east Bradywine nearly a mile above Downingston, and the river is passed with a bridge of 40 feet high and about 910 feet long. Extent of the section 467 chains and rate of graduation per mile 16 feet descending.

Section 27, From east Brandywine to our level picket near Trimble's saw mill, on the principal branch of East Valley creek, the ground still continues favourable for a road. The stream must be crossed with a small bridge. The length of this section is 361 2-3 chains and the line ascends at a graduation of 12.34 per mile.

Section 28. Continuing from our level picket to the levels, the summit of the ridge dividing the waters of the eastern and western Valley creeks, which is near the White Horse tavern the line passes over favourable ground and the section terminates to the east of the old Lancaster road. The length is 226½ chains and the ascending graduation 10.32 feet per mile.

Section 29. From the summit near the White Horse tavern, the line crosses the valley in a southern direction towards Kennard's school house, it then continues on the north side of the Lancaster and Philadelphia turnpike, and terminates on a ridge near the Chester academy. This ridge must be cut down 15 feet. Length of section 93½ chains and ascending graduation 23.20 feet.

Section 30. From this ridge the line crosses the turnpike and keeps to the south of it, along the face of the South Valley hill to a level picket near the Warren tavern. The length of this section is 199 chains and ascending graduation 7.68 feet per mile.

Section 31. Continuing along the face of the same hill the line intersects the turnpike near the toll-gate, immediately above the Warren tavern, crossing in its course, several deep and wide ravines and terminates at a point a short distance north of General Evans' tavern, Paoli. Length of section 219 chains and graduated rate per mile ascending 26.64 feet. I will here remark that great difficulties presented themselves in exploring and finding a favourable route for leaving the Chester valley.

In order to facilitate the operations, I proceeded in advance of the levelling party with a line of levels as far as the ravine which enters the valley at Howell's(Davis') tavern. In running the line to the head of the defile, the ground rose too rapidly to admit of a passage through it. The levels however, were extended along the ridge to the north of the Philadelphia turnpike, as far as a summit (dividing the waters of Schuylkill from Delaware) in Mr. Groves' field, a short distance north of the Spread-Eagle tavern, which was ascertained to be nearly 62 feet above the level at the White Horse. Mr. Haines after passing with the levels the ridge near the Chester academy (stated in section No. 29) kept with an elevated level to the end of the section No. 31 at Paoli, and from thence he crossed the ridge on the turnpike about one and a half miles east of the Paoli tavern, and carried the line towards the summit at Groves'. His report upon the section from the Warren to the Spread Eagle was so favourable that the line was continued to the Schuylkill without further examinations being made upon it. I find however, from the profile and draft made out from the level book, that that portion of the line passed over more uneven ground than any other section between the Schuylkill and Susquehanna rivers. The ravines crossed are numerous and several of them of great depth. A further examination will be made of it previous to the completion of the estimate.

Section 32. Returning to the level picket at Paoli and continuing the line on north side of South Valley ridge it terminates on a summit in Mr. Vanleer's orchard near the toll-gate. The distance is 200 chains and by reducing the summit 15 feet at a base of 18 chains, the graduation of the section will be 5.64 feet per mile. Three ravines are crossed and a ridge of 10 chains must be cut 20 feet.

Section 33. From Vanleer's the line crosses the turnpike and re-crosses it near the Lamb tavern, it then keeps north of it and passes through Mr. Grover's near the Spread Eagle tavern. From thence it is traced on favourable ground, to the east bank of the ravine, which it crosses north of Benjamin Mould's house. The length of this section is 335 chains and descends upon a graduation of 27½ feet per mile. Bridge across Mould's ravine 34.13 feet in height and 600 long.

Section 34. Leaving Mould's ravine the line passes through lands of L. George and G. Curwin north of the turnpike and reaches a summit on Rudolph's land, reducing which 20 feet the ascending graduation will be 9.97 feet per mile, and the distance 174 chains.

Section 35. From Rudolph's summit the line crosses the turnpike west of the house of William Thomas, and passes south of the Buck tavern, near which it re-crosses the turnpike and taking a direction towards Dr. Anderson's, it meets the old Lancaster road and following nearly its course, the section terminates this line at the line point where the Flat Rock bridge road leaves the old Lancaster near Henry Browman's. The length is 602 chains and the descending graduation is 15.48 feet per mile. The line crosses five ravines of about four chains wide each, and 20 feet deep.

Levels from section No. 35, were carried along the ridge north of the turnpike to the Schuylkill river, with a view to a knowledge of the country, but as it is a matter of some consideration to determine whether the river shall be crossed and if so, the most advantageous point for crossing by a bridge, the line has been left open from this section for future decision.

Having only completed the survey on the 29th of November, the time remainiug has been too limited to afford me an opportunity of putting together the extensive notes made during the examinations through the country, so as to form a correct estimate of expenses of all the constituent parts of the rail way.

From the nature of the subject and the varied surface over which the survey has passed, it must be obvious, that a careful and minute calculation is indispensably necessary to the attainment of a correct estimate, I shall however, exert myself to prepare within as short a period as possible, the remaining part of this report.

All which is respectfully submitted.
Signed,
JOHN WILSON.

Philadelphia, Dec. 17, 1827.

OFFICE OF THE CANAL COMMISSIONERS.

Philadelphia, Jan. 14, 1828.

Sir,—By the direction of the canal commissioners, I have the honour to enclose to you a complete estimate by major Wilson, of the cost of a rail-way from the mouth of Swatara down the Susquehanna to Columbia and thence to a point near Philadelphia. The estimated expense from Columbia to the city of Philadelphia, varies by a very small fraction from the sum named by the commissioners in their report.

I have also transmitted to the clerk of the house of representatives for the use of both branches of the legislature, the following drafts of surveys made during the past season.

1. A map of the proposed canal line from Pittsburg by the Beaver and Shenango to Conneaut lake, by C. T. Whippo, engineer.

2, A draft of a canal line from Bemis' mill on French creek by way of Waterford to Erie harbour, by the same engineer.

3. A map of the proposed canal line from Conneaut lake by way of Elk creek to Erie harbour, by major D. B. Douglass.

4. A connected map prepared under the direction of Mr. Whippo, shewing all the above mentioned lines, and also the line of the French creek feeder from Conneaut lake to Bemis' mill.

It is respectfully asked, that you will cause these documents to be laid before the honourable body over which you preside.

With sincere respect,
I have the honour to be,
Your most ob't. servant,
JOS. M'ILVAINE,
Superintendant of Surveys.

Hon. Ner Middleswarth, Speaker of the House of Representatives of Pennsylvania.

—

To the Board of Canal Commissioners of the state of Pennsylvania.

Gentlemen—Having already submitted to the board a preliminary description of a line of rail-way, between the Susquehanna and Schuylkill rivers, in conformity with your instructions, I have now the honor to place before you the remaining part of my report upon the subject with an estimate of the expense of construction.

In describing the nature of the ground over which the survey was conducted for tracing the line of rail-way; it was remarked, that there were considerable difficulties in finding ground suitable for leaving Chester valley in order to extend the line to Philadelphia. Exceptions being made to the 34th section as passing over not only ravines of great depth but the line itself, being too winding in its course, to render it practicable for the road.

A levelling party was therefore directed to re-examine this section, and also another line along the face of the Valley hill, so as to connect the latter with the summit at Grover's. The examination of the first was fully made, which resulted in the impracticability of graduating any line immediately from the Warren tavern, so as to join the position at Paoli, with the termination of its graduation at the point east of Vanleer's, on the turnpike road. Levels were also carried from Grover's to a very favourable position (three-fourths of a mile in a north west direction) for connecting the two graduations above mentioned, by means of fixed steam power; but the continued unfavourable state of the weather and the limited time allotted for the explorations, would not allow the party to make so full a report upon the subject as was wished. In order, therefore, to close the estimate I have given the probable amount of cost of item 13, leaving this section subject to future examination.

The numerous streams intersected by the line between the Susquehanna and Schuylkill rivers, rendered it necessary that the bridges should be constructed of the least expensive materials. In all those which exceed the mean height of 18 feet, the wooden superstructures are placed upon stone piers of common rubble masonry, and under that height wooden frames resting upon stone foundations support the rail-way. They are all covered to protect them from the weather. Their formation is upon the principle of Town's truss bridges, which I believe to be well calculated for strength, durability and economy.

The methods which have been adopted in the construction of the rail-ways in this state, and in Massachusetts, are very similar; they differ only in the material which forms the traverse upon which the wooden rail rests. The one being of wood, and the other stone; and both are placed upon stone foundations to render them secure, and keep them from the influence of frost. The construction at Quincy might be applied to the Susquehanna line, without much additional cost, but I submit to the board another plan, which appears to ensure equal stability.

Instead of the transverse bearing or sleepers of wood or stone upon which the parallel wooden rails are placed, it is proposed to substitute blocks of stone 18 inches or 2 feet square, inserted two feet deep in the ground, or more, as the nature of the soil may require, and these situated 8 feet apart, in the direction of the road. The blocks to be firmly embedded in broken stone and puddle, and so fixed as to rise from 4 to 6 inches above the surface of the ground. Upon the blocks will be placed the rail of oak timber 8 inches wide and 12 deep, and which will be secured to the former by iron bolts one inch in diameter and 20 inches long, the upper surface of the blocks being previously smoothed, drilled 10 inches and plugged with wooden trenails. Upon the inner edge of the wooden rail be applied a rolled iron bar 2½ inches wide and ⅜ of an inch in thickness, which will be secured in its place by spikes or screws, at every 3 feet in length. Parallel to this line will be the other at the distance of four feet.

As the road is calculated for a double track, the intermediate space between the two, will be four feet; and four sidelings or passing places to the mile, between the tracks, are allowed in the estimate. The side foot-paths will each occupy four feet, and the side drains are calculated at 4½ feet in width. The space of ground covered by this arrangement will be about 33 feet. The horse path in each rail way will be properly prepared and covered with broken stone and gravel.

Western Division.

Item 1. Comencing with deep cut at gap of Mine ridge. Excavation on a base of 32 chains, depth from apex being 30ft. 68052 cubic yards 20 cents	$13,610	40
Double drain, 2816 cubic yds. 20 cts.	563	20
	14,173	60
Item 2. From Mine ridge to Aby's. Excavation 120 chains, area ⋈ section 2½ square yds. 6600 cubic yds. at 8 cts.	528	00
Single drain on 120 chains, 5280 cubic yards at 8 cts.	422	40
Embanking 8566 cubic yds. at 15 cts.	1,285	00
Three bridges; two of 66 ft and one of 33 ft.	1,740	00
	3,975	40
Item 3. From Aby's to Pequea creek at Ekerts. Excavation on 294 8-10 chains, ⋈ section 6 sq. feet	259	44
Double drain on 27.11 chains, single drain on 294 8-10 ch. 15358 cubic yds. at 6 cts.	921	48
Embankment on 28 36-100 ch. 18135 cubic yds. at 15 cts.	2,720	25
Two small bridges each $100	200	00
Bridge over Pequea creek; stone piers, wooden superstructure; and covered	5,487	00
	9,588	17

Item 4. From Pequea creek to M'Caslin's		
Double drain on 119 ch. 10472 cubic yds. at 6 cts.	628 32	
Embankment on 3 ch. 1489 cubic yards, at 10 cts.	148 90	
Small bridge	80 00	
		857 22
Item 5, From M'Caslin's to Weaver's. Excavating 100 ch. ⋈ section—6 square feet, 1466 cubic yds. at 6 cts.	87 96	
Double drain on 36 ch. single drain on 100 ch. 7568 cubic yds. at 6 cts.	454 08	
Small bridge	100 00	
		642 04
Item 6. From Weaver's to Mill creek. Excavating 60 ch. ⋈ section—6 square feet, 880 cubic yds. at 6 cts.	52 80	
Double drain on 252 8-10 ch. 22246 cubic yds. at 6 cts.	1334 76	
Embankment on 24 ch. 7150 cubic yds. at 10 cts.	715 00	
Bridge over ravine near Mill creek, covered	5,937 50	
Bridge over Pequea creek; stone piers; covered	6988 00	
		15,028 06
Item 7. From Mill creek to summit at Gilbert's. Excavation on 34 chains ⋈ section 1⅓ square yds. 997 cubic yds. at 6 cts.	59 82	
Cutting summit 34 chains base ⋈ section 17 square yds. 12716cubic yds. at 10 cts.	1,271 68	
Double drain on 50 chains; single do. on 34 ch. 5896 cubic yds. at 7 cts.	412 72	
		1,744 22
Item 8. From Gilbert's to Beckerman's.—Double drain on 155 8-10 ch. 13710 cubic yds. at 6 cts.	822 60	
Cut near Beckerman's ⋈ section 17 square yds. 6358 cubic yds. at 10 cts.	635 80	
Side-long cutting on 12.89 ch. ⋈ section 6 2-3 square yds. 1891 cubic yds. at 6 cts.	113 46	
Embankment on 21.20 ch. 3316 cubic yards at 10 cts.	331 60	
Embankment on 8,42 ch. 5338 cubic yards, at 15 cts.	800 70	
Two bridges; one of 33 feet, and 1 of 10 ft	400 00	
		3,104 16
Item 9. From Beckerman's to BigConestoga. Double drain on 146 ch. 12848 cubic yds. at 6 cts.	770 88	
Cut 8 feet on 22 ch. base, 7744 cubic yards, at 10 cts.	774 40	
Embankment on 7 ch. 2310 cubic yds. at 10 cts,	231 00	
Bridge over Conestoga; stone piers and wooden frames, covered; wooden superstructure	22,994 20	
		24,770 48
Item 10. From Conestoga to Mayer's. Excavation on 74.39 ch. ⋈ section; square feet6, 1091 cubic yds. at 6 cts.	65 46	
Double drain on 61.61 ch. single do. on 74.39 ch. 8695 cubic yds. at 6 cts.	521 70	
Cut at Mayer's 27.57 ch. base, 3.97 ft. deep, 8552 cubic yds. at 8 cts.	684 26	
Small bridge	80 00	
		1,351 42
Item 11. From Mayer's to Sharp's. Cut in prolongation of summit at Mayer's on 19 ch. m. depth 3.9 feet, 5893 cubic yards, at 8 cts.	471 44	
Double drain on 120 ch. 10560 cubic yards, at 6 cts.	633 60	
Embankment on 3 ch. 763 cubic yards, at 10 cts.	76 30	
Small bridge	80 00	
		1,261 34
Item 12. From Sharp's to Little Conestoga. Excavation on 120 ch. ⋈ section 6 sq. feet, 1760 cubic yards, at 6 cts.	105 60	
Single drain on 120 ch. 5280 cubic yds. at 6 cts.	316 80	
Bridge over Conestoga; stone piers, wooden superstructure, covered	6643 00	
		7,065 40
Item 13. From Little Conestoga to end of section 9. Double drain on 78 ch. 6864 cubic yds. at 6 cts.	411 84	
Embankment on 2 ch. 660 cubic yards, at 10 cts.	66 00	
Small bridge	80 00	
		557 84
Item 14. From section 9 to Habaker's. Double drain on 98 ch. single on 95 ch. 12804 cubic yds. at 6 cts:	768 24	
Excavation on 95 ch. ⋈ section, 6 sq. feet, 1393 cubic yards, at 6 cts.	83 58	
Cut at Mayer's 6331 cubic yds. at 10 cts.	633 10	
Embankment and bridge near do.	672 00	
Do. do. Leaman's	150 00	
Do. do. Bean's	150 00	
		2,456 92
Item 15. From Habaker's to Senner's. Double drain on 30 ch. single do. on 68 ch. 5632 cubic yds. at 8 cts.	450 56	
Cut summit at Senner's 30 ch. base, 13 feet depth, 19543 cubic yds. at 10 cts.	1,954 30	
Excavation on 68 ch. ⋈ section; 6 square feet, 997 cubic yds. at 6 cts.	59 82	
		2,464 68
Item 16. From Senner's to Hershey's. Excavation on 61.87 ch. mean ⋈ section, 1.12 square yards, 1524 cubic yds. at 6 cts.	91 44	
Single drain on same, 2723 cubic yds. at 6 cts.	163 38	
Bridge over Hershey's pond; stone piers, wooden superstructure and covered	4,193 00	
		4,447 82
Item 17. From Hershey's to Seitz's. Excavation on 63 ch. ⋈ section 1 sq. yd. 1386 cubic yds. at 6 cts.	83 16	
Double drain on 25.66 ch. and 63 ch. single do. 5030 cubic yds. at 6 cts.	301 80	
Cut at Seitz's 2,481 cubic yds. at 8 cts.	198 48	
		583 44
Item 18. From Seitz's to a point near Millinger's. Excavation on 89 chains ⋈ sectiun 1½ square yds. 2,610 cubic yds. at 6 cts.	156 60	
Single drain along same, 3916 cubic yards, at 6 cts.	234 96	
		391 56
Item 19. From Millinger's to Susquehanna river. Excavation on 180 ch. mean ⋈ section, 1.11 sq. yds. 4396 cubic yds at 6 cts.	263 76	
Single drain along 180 ch. 7920 cubic yards at 6 cts.	475 20	
		738 96

Susquehanna river section.

Item 1. From Strickler's through Columbia to Chickes's rock, common, forming 160 chains	1,000	00
Walling in river 1 mile 4225 perches at 75 cts.	3,168	75
Filling in do. 37546 cubic yds. at 10 cts·	3,754	60
Chickesalunga creek bridge, covered	1,250	00
	9,173	35
Item 2. From Chickesalunga to Marietta. Double drain on 85.49 ch. 7523 cubic yds. at 6 cts.	451	38
Small bridge	120	00
	571	38
Item 3. From Marietta to Vinegar's ferry road. Double drain on 283 ch. 23144 cubic yards at 8 cts.	1,851	52
Bridge at Longenecker's and embankment	1,000	00
	2,851	52
Item 4. From Vinegar's ferry road to Conoy creek.		
Excavation on 94.39 ch ⋈ section 9-10 sq yds 1,863 cubic yards at 8 cts	149	04
Double drain on 59 ch and single on 35 ch 6,732 cubic yards at 8cts	538	56
179.44 ch double drain, 15,791 cub yards at 8 cts	1,263	28
4 bridges 2 of 20 and 2 of 10 feet	400	00
	2,350	88
Item 5. Susquehanna river section, from Conoy creek to Bainbridge.		
Rock excavation 1.88 ch 390 cub yards at 62 1-2 cts	243	75
Cutting on 56 80 ch ⋈ section 4½ sq yards, 5,623 cub ys at 20 cts	1,124	60
Filling in and embanking 13.98, 1,770 cubic yards at 10 cts	177	00
Dry wall on 13.21 ch, 347 perches at 75 cts	260	22
Paving on 8.45 ch, 471 sq yds at 46 cts	216	66
Back drain on 41 ch, 1,304 cub yds at 15 cts	270	60
Bridge across Conoy creek, covered,	720	00
	3,012	83
Item 6, From Bainbridge to a point opposite Wood Island.		
Excavating 48-09 ch, ⋈ section 3¼ sq yards, 3,438 cub yds at 18 cts	618	84
Single drain on 35.87 ch, 1,578 cub yards at 12 cts	189	36
Dry wall on 48.09 ch, 809 perches at 75 cts	608	75
Paving 1 ch, 51 sq yds at 46 cts	23	46
2 bridges, 1 of 20 and 1 of 10 feet	200	00
	1,640	41
Item 7. From Wood island to York Haven road.		
Excavation on 15.12 ch ⋈ section 24 sq feet, 887 cub yds at 8 cts	70	96
Double drain on 146 56 ch 12,897 cub yds at 8 cts	1031	76
Embankment on 1 ch, 88 cub yds at 10 cts	8	80
2 bridges, 1 of 185 feet and 1 of 24 feet	1,750	00
	2,861	52
Item 8. Susquehanna river section, from York Haven road to Hopkin's dam.		
Excavation on 85.38 ch ⋈ section 1 2-10 sq yds, 2,254 cub yds at 18 cts	405	72
Single drain along same, 3,755 cub yds at 18 cts	675	97
3 bridges, 2 of 10 and 1 of 20 feet	320	00
	1,401	69

Eastern Division.

Item 1. From Mine ridge to Moore's mill pond.		
Excavation on 179 ch, 3,329 cub yds at 6 cts	199	74
Double drain on 57 ch, single on 179 ch, 7,876 cub yds at 6 cts	472	86
Four bridges of 10 feet	320	00
Bridge a Moore's, stone piers and covered	6,375	00
	7,367	60
Item 2. From Moore's to Cloud's.		
Excavation on 128.26 ch mean ⋈ section 1 9-10 sq yds, 5,362 cub yds at 6 cts	321	72
Single drain along do, 5,644 cub yds at 6 cts	338	64
Embankment on 3 ch, 330 cub yds at 10 cts	33	00
Slope wall on 54.68 ch, 927 perches at 75 cts	695	00
Four bridges of 10 feet	320	00
Bridge at Cloud's, wooden frame upon stone foundation, wooden superstructure and covered,	4,375	00
	6,083	36
Item 3. From Cloud's to Octoraro summit.		
Excavation on 223 ch ⋈ section 1 1-3 sq yds 6541 cub yds at 6 cts	392	40
Single drain along do, 9.820 cub yds at 6 cts	588	72
Embankment on 7 ch; 1,560 cub ys at 10 cts	156	00
Cut summit 10.23 feet base 20 ch, 9,566 cub yds at 10 cts	955	90
	2,093	02
Item 4. From Octoraro summit to Buck run summit.		
Excavation on 226.76 ch ⋈ section 1 sq yd, 4,988 cub yds at 6 cts	299	28
Embankment on 5.70 ch, 1,791 cub yds at 10 cts.	179	10
Single drain on 227.76 ch, 9,079 cub yds at 6½ cents	598	56
Cut summit base 23 ch 30 feet, 48,913 cub yds at 20 cts	9,782	60
Bridge over branch of Buck run at Park's	300	00
Bridge over Buck run, covered	8000	00
	19,159	54
Item 5. From Buck run summit to West Brandywine.		
Excavating 243.41 ch, 20,365 yds at 8 cts	1,629	20
Embankment on 11 ch, 2,837 cub yds at 10 cts	283	70
Single drain on 243.41 ch, 10,710 cub yds at 8 cts	856	80
Slope wall on 22.75 ch, 978 perches at 75 cts	733	50
5 bridges, 66, 33, 33, 20 and 10 feet	1,650	00
Bridge over West Brandywine, stone piers, wooden superstructure and covered	17,790	00
	22.943	20
Item 6. From West Brandywine to Gardner's ridge.		
Excavation on 146.38 ch ⋈ 14 sq feet, 5,008 cub yds at 6 cts	300	48
Cut at Gardner's ridge 3.55 feet 4 chains base, 547 cub yds at 8 cts	43	62
Single drain on 46.33 ch. double do. on 4 ch, 6,790 cub yds at 6 cts	407	40
	751	50
Item. 7. From Gardner's to East Brandywine.		
Excavation on 450.10 chains ⋈ section 2½ sq yds, 24,755 cub yds at 6 cts	1,485	30
Single drain on do. 19,804 cub yds at 6 cts	1,188	24
Embankment on 2 ch, 660 cub yds at 10 cts	66	00
Bridge over Beaver creek, covered	5,724	00
Bridge over Brandywine, stone piers, cov'd	13,405	00
	21,868	54

Item 8. From East Brandywine to Trimble's Saw mill.	
Excavation on 355.34 ch ⋈ section 14 sq ft. 12,160 cub yds at 6 cts	729 60
Single drain along do. 15,634 cub yds at 6c	938 04
Embankment on 5.50 ch, 2,645 cub yds at 10 cts	264 50
Small bridge over Robert's run	200 00
Do. over Valley creek at Trimble's	300 00
	2,432 14
Item 9. From Trimble's mill to summit near White Horse.	
Excavation on 226.50 ch ⋈ section 2.8 sq ys, 13,953 cub yds at 6 cts.	837 18
Single drain on do. 9,966 cub yds at 6 cts	597 96
	1,435 14
Item 10. From White Horse to Academy summit.	
Excavation on 92½ ch ⋈ section 6 sq ft. 1,356 cub yds at 6 cts	81 36
Single drain on do. 4,070 cub yds at 6 cts	244 20
Bridge 33 feet	300 00
	625 56
Item 11. From Academy at Warren Tavern.	
Cut at Academy summit 15 feet base 20 ch. 15,765 cub yds at 15 cts	2,364 75
Sidelong excavation on 176 ch ⋈ section 1 sq yd, 3,872 at 6 cts	232 32
Two bridges 33 feet each	600 00
Double drain on 20 ch. single on 176 ch, 9,404 cub yds at 9 cts	855 36
	4,052 43
Item 12. From Warren to Howel's Ravine.	
Excavation on 9.69 ch ⋈ section 8½ sq feet, 4,637 cub yds at 6 cts	278 22
Single drain on do. 10,106 cub yds at 6 cts	606 36
Embankment on 9¼ ch, 2,717 cub yds at 10c	271 70
Six bridges of 66, 25, 150, 150, 5 and 25 feet	5,340 00
Bridge over ravine at Pennington's	6,980 00
——over ravine at Howel's	6,114 00
	19,590 28
Item 13. From Howel's to Grover's.	
Excavation on 368 ch, 7,421 cub yds at 6cts	445 26
Single drain on do 16,191 cub yds at 6 cts	971 46
Embankment on 6 ch, 1,860 cub yds at 10c	186 00
Three bridges	4,400 00
	6,002 72
Item 14. From Grover's to Mauld's ravine.	
Excavation on 101 ch ⋈ section 6 sq ft, 1,481 cub yds at 6 cts	88 86
Single drain on 101 ch, 4,444 cub yds at 6 cts	266 64
Bridge over Mauld's ravine, covered	7,500 00
	7,855 50
Item 15. From East side Mauld's ravine to summit at Rudolph's.	
Excavation on 138 ch, 3,343 cub yds at 6c	200 58
Cut at Rudolph's 20 feet base 35 ch, 41,177 cub yds at 20 cts	8,235 40
Single drain on 138 ch. double do. on 35, 9,112 cub yds at 10 cts	911 20
Embankment on 6½ ch, 3,893 cub yds at 15c	583 95
Bridge 33 feet	320 00
	10,250 93
Item 16. From Rudolph's to end of section 35 as described in the preliminary report.	
Double drain on 582 ch, 51, 216 cub yds at 6 cts	3,072 96
Embankment on 5 ch, 1, 670 cub yds and bridge	1,570 50
2 bridges of 10 feet with 6,020 cub yds embankment	1,000 00
	5,643 46

Summary of the estimate for common road forming on the Susquehanna river section, including bridges and embankment.

Item 1. From Strickler's to Chickesalunga creek	9, 173 35
—— 2 —— Chickesulunga to Marietta	571 28
—— 3 —— Marietta to Vinegar ferry rd.	2,851 52
—— 4 —— Vinegar ferry rd. to Connoy cr	2, 350 88
—— 5 —— Connoy cr. to Bainbridge	3, 012 83
—— 6 —— Bainbridge to a point opposite Wood Island,	1,640 41
—— 7 —— Wood Isl. to York Haven rd	2, 861 52
—— 8 —— York Haven rd. to Hopkin's dam	1, 401 69
	23, 863 48
Average cost per mile, the distance being 15¾ miles	1, 515 14

SUMMARY.

Of the estimate for common road forming on the Western Division (begining at Susquehanna) including bridges, embarkments and cuttings.

Item 19. From the Susquehanna river to Millinger's.	738 96
—— 18 —— Millinger's to Seitz's.	391 56
—— 17 —— Seitze's to Hershey's	583 44
—— 16 —— Hershey's to Senner's	4447 82
—— 15 —— Senner's to Habacker's	2464 68
—— 14 —— Habacker's to station No 9	2406 92
—— 13 —— Station No 9 to L. Conastoga	557 84
—— 12 —— L. Conestoga to Sharp's	7065 40
—— 11 —— Sharp's to Mayer's	1261 34
—— 10 —— Mayer's to Big Conestoga	1351 42
—— 9 —— Big Conestoga to Beckerman's	24770 48
—— 8 —— Beckerman's to Guilbert's	3101 16
—— 7 —— Guilbert's to Mill creek	1744 22
—— 6 —— Mill creek to Weaver's	15028 06
—— 5 —— Weaver's to M'Caslin's	642 04
—— 4 —— M'Caslin's to Pequea creek	858 22
—— 3 —— Pequea creek to Aby's	9588 17
—— 2 —— Aby's to the Gap	3975 40
—— 1 —— Deep cut at the Gap	14173 60
Eastern Division.	
—— 1 From the Gap to Moor's	7367 60
—— 2 —— Moore's to Cloud's	6083 36
—— 3 —— Cloud's to Octararo summit	2093 02
—— 4 —— Octararo summit to Buck run summit	19159 54
—— 5 —— Buck run summit to West Brandywine	22943 20
—— 6 —— W. Brandywine to Gardner's	751 50
—— 7 —— Gardner's to East Brandywine	21868 54
—— 8 —— East Brandywine to West Valley creek	2432 14
—— 9 —— W. Valley creek to summit at W. Horse	1435 14
—— 10 —— Summit at W. Horse to Academy summit	625 26
—— 11 —— Academy summit to the Warren	4052 43
—— 12 —— Warren to Howel's	19590 28
—— 13 —— Howel's to Grover's	6002 72
—— 14 —— Grover's to Mauld's	7855 50
—— 15 —— Mauld's to summit at Rudolph's	10250 93
—— 16 —— Rudolph's to section 35	5643 46
Total amount of cost of road fromColumbia eastward	233,357 35

The distance being 84½ miles, the average cost per mile is $2761 62.

Estimate for one mile of double railway.

Rolled iron bars of 2½ inches wide by 3-8 of an inch in thickness, are considered sufficient for plating the inner edge of the wooden rails. For the double track including sidelings or crossing places, one mile will require 30.55 tons, which can be drilled and delivered at $93 per ton	2841 15
Stone blocks (granite, gneiss or limestone) from 18 inches to 2 feet square, and from 2½ to 3 feet long, placed eight feet apart, embedded, drilled and plugged, at 75 cts. each	2062 50
22000 feet oak timber 8 by 12 inches, to be placed as rails upon the blocks, including sidelings at 8½ cents per foot	1870 00
Iron bolts 20 inches by 1 in diameter, for fixing the wooden rails to the stone blocks, at 150 per ton,	773 40
Five inch spikes for securing the iron bars to the wooden rails, including the placing at 9 cents per pound	182 48
Stoning the horse path. There are many miles where the gravel side hills will render this expense unnecessary; but in taking the mean average and giving an increment of length to the sidelings; both will cover all expenses incident to the public and farm roads crossing the line of railway and in filling up the slopes and counter slopes of the sidelings	350 00
Total cost for one mile	8,079 53

Estimate of the Susquehanna River Section.

15,64 ms.	requiring	477.8 tons of bar iron, at $93 per ton	44,435 40
do	do	344,080 feet oak timber at 8½ cts pr ft	29,246 80
do	do	43,010 blocks of stone at 75 cts each	32,257 5
do	do	80.6 tons of bolts at 150 dols pr ton	12,090 00
do	do	31,712 lbs of spikes at 9 cts pr lb	2,844 80
do	do	Stoning and preparing the horse path ot 350 dols pr mile	5,474 00
			126,256 78

Bridges.

501 ft of double and 100 ft of single bridges,		requiring 4.8 ts iron	379 44
do	do	2,204 feet oak timber at 18 cts	187 34
do	do	Iron fastenings for timber	30 00
do	do	203 lbs spikes at 9 cents per lb	18 27
			126,972 83
Add cost of road forming			23,863 48
			150,836 31
Add for contingencies 10 per cent			15,083 63
			165,919 94

Average cost per mile $10,534 59.

Estimate of the Eastern and Western divisions between Susquehanna and Schuylkill, exclusive of bridges.

83.56 miles	requiring	2,552¾ tons bar iron at 93 dols	237,405 74
83.56 ms.	requiring	229,790 blocks of stone at 75 cts. each	172,342 50
do	do	1,838,321 feet oak timber at 8½ cts per foot	156,257 28
do	do	430.85 tons bolts at $150 per ton	64,627 50
do	do	169,422 lbs spikes at 9 cts per lb.	15,247 98
do	do	Stoning the horse path $350 per mile	29,246 00
			675,127 00
Stationary steam engine near Millinger's			6,000 00

Bridges.

0.55 ms. of double and 1.55 ms. of single tracks		38 tons bar iron	3,534 00
do	do	27,054 feet oak timber at 8½ cts	2,299 59
do	do	Iron fastenings for rails	375 00
do	do	2,595 lbs. spikes at 9 cts.	233 55
			687,569 14
		Cost of road, &c.	233,357 35
			920,926 49
Add 10 per cent for contingencies			92,092 64
			$1,013,019 13

Average cost per mile, $11,824 66

All the bridges under 150 feet in length of platform, are calculated for double railway tracks in the estimate. The bridge over big Conestoga is also double, on account of its lenth;—all the others have only single: but their breadth of platform which is 18 feet, will admit of having a double line of road, if deemed necessary.

Various estimates have been given of a horse's power of traction. Mr. Watts estimates the force of a horse's traction, at 150 lbs. when the horse goes at the rate of 2½ miles an hour, and Mr. Treadgold gives it at 125 lbs. when the velocity is 3 miles an hour for 6 hours of a day: but neither of these estimates appear to be the result of actual experiment. Making due allowance for the difference in the strength of horses, in the different places where the experiments were made, would scarcely account for the discrepancies in these statements. The results of experiments made by Mr. Wood, of the performance of horses, and exhibited in the tables in his treatise on rail roads, are much more satisfactory. Taking the force of a horses traction, travelling twenty miles per day, at the rate of 2 miles an hour, to be equal to 112 lbs. may be considered as a correct estimate of his power. Mr. Wood derives also from a number of experiments, satisfactory coincidence of the amount of the friction of carriages moving upon edge rails: the result is, that with wheels of which the ratio of the diameter to that of the axle is 12:1, the total resistance will be .02 part of the weight of the whole carriage and load.

If the friction of this carriage be taken at the 200th part of its weight, then the weight which will present a resistance of 112 lbs. upon the edge rail will be 22,400 lbs. or ten tons, conveyed on a level rail road, twenty miles per day, travelling at the rate of 2 miles per hour. This expresses only the relation of the effort to the effect

on a level—on ascents the resistance is increased, and the effect of the effort of the moving body must be considerably diminished. In the theorems given by recent writers on this subject, the weight of the moving power which had been heretofore omitted by Treadgold and others, is considered as bearing too great a proportion to the whole load, to be neglected in the equation.

In calculating the value of the performance of a horse on the varied ascents from the Susquehanna river to Schuylkill, the amounts of tonnage stated in the table forming a part of this report, and which are placed opposite to each ascending graduation, are deducted from the following formula, which may be applied in calculating the effect of either the locomotive engine or horse power.

In comparing the results obtained for the latter, with some of the experiments specified in Mr. Wood's tables, they are found to represent the effect of the power of the horse, as below the actual performance.

First for the engine—let *E* represent the weight of the engines, and *e* be that fractional part of its weight, which produces the progressive motion of the engine wheels upon the rails: then *E. e.* will represent the engine's force of traction upon the level

Let *I* be the angle of inclination.

W the weight of the wagons and load.

f the friction at the axle of the wagons when the pressure is 1.

d the diameter of the wheel when that of the axle is 1.

The general equation which expresses the relations of these quantities, is E (e ± sin I) = W ($f \div d \pm$ sin I.

The upper signs give the equation for ascending slopes, and the lower that required for descending slopes.

Taking an ascending gradauation of 27½ feet to the mile, and which may be considered as the highest number on our line; the amount of tonage which a locomotive engine can drag up this ascent may be formed thus:

Let E be taken=7 tons. By Mr. Wood, e=1-25 and f—a=1-200 : sine of I=1-192 (27½ to the mile) then 7 (1-95 — 1-192) = W (1-200+ 1-192.)

7-25 — 7-192=1169-4800=392-3840 : and W= 23.9 tons, which the engine can drag up an ascent of 27 ft. to the mile.

If the effort of a horse at any velocity, be represented by 1-10th of his weight or 112 lbs. he will on a level drag twenty times his weight or 10 tons: and the inclination at which his load, with the same velocity, ought to be one half or only ten times his weight, is 1-206 or 25-63 feet to the mile. Taking the maximum rate of graduation as before, at 27½ feet to the mile, the amount of tonnage corresponding to this ascent, is found to be as follows:

The effort of a horse in carrying a load, is assumed to have to his power of traction, the ratio of 3 to 1: or sine ⅓, is substituted for sine 1, in the first number of the equation.

Using the upper signs; the equation is H or 1120 (1-10 —sine ⅓)=W (1-200+1-192.)

112—1120-576=W. 392-38400 and W = 107,809 lbs.=4.81 tons.

By a slight modification in the same formula, it can be applied in ascertaining the most advantageous inclination which a rail road ought to have, when the amount of transportation in going and returning, bears a known proportion. It is unnecessary however, to give it a place in this report, as the surface over which our line passes, will prevent the application of it.

TABLE.

Exhibiting the distance, ascending and descending graduations, commencing at the Susquehanna river, and tracing the line eastward.

WESTERN DIVISION.

	Chains.	Graduation per mile Ascending.	Graduation per mile Descending	Amount of Tonnage or value, of the power of 1 horse on the Ascents, as derived from the equation H (e—sine 1 ⋈ 3)—W ($f \div a +$ sine 1.)
8	85.35		3.12	
7	147.56		2.56	
6	84.96		Level.	W = 20 H — 10 tons
5	78.25		Level.	Do.
4	273.53		1.36	
3	265.66		1.04	
2	85.49		3.84	
1	240.00	Level.		In passing Chickey's rock, this to be hereafter graduated.
19	160.00	18.00		One inclination—1-293: load 5.95 tons.
18	20.00	130.00		Fixed engine, length of plane hereafter regulated.
17	89.00	13.68		Sine I 1-385 : load 6.55 tons.
16	88.66		16.16	
15	66.33		5.19	
14	98.00		18.00	
13	213.00		16.08	
12	80.00		27.33	
11	120.00	18.16		Sine I 1-292 : load 5.85 tons.
10	123.00		0.87	
9	136.00		21.12	
8	146.00	27.50		Sine I 1-192 : load 4.81 tons.
7	186.00	7.18		Sine I 1-755 : load 8.35 tons.
6	84.00		18.08	
5	284.00	13.84		Sine I 1-381 : load 6.45 tons.
4	136.00	7.36		Sine I 1-717 : load 7.78 tons.
3	122.00		Level.	W — 20 H — 10 tons.
2	340.00	27.50		Sine I 1-92 : load 4.81 tons.
1	162.00	29.04		Sine I 1-181 : load 4 66 tons.

EASTERN DIVISION.

1	235.00		20.32	
2	131.26	16.00		Sine I 1-330 : load 6.61 tons.
3	231.37	7.92		Sine I 1-666 : load 7.65 tons.
4	242.66		23.04	
5	257.00		27.50	
6	150.33	Level.		W = 20 H = 10 tons.
7	458.00		16.24	
8	361.64	12.34		Sine I 1-427 : load 6.76 tons.
9	226.50	10.32		Sine I 1-511 : load 7.14 tons.
10	93.50	23.20		Sine I 1-227 : load 5.23 tons.
11	199.00		12.56	
12	260.00		2.32	
13	380.00	15.25		Sine I 1-346 : load 6.26 tons.
14	110.00		23.00	
15	176.00	9.97		Sine I 1-529 : load 7.25 tons.
16	602.00		15.48	
	84 miles 48 chains.			

There are three points upon the line between Mine Ridge and Schuylkill river, where stationary steam power could be advantageously placed. They are, at the Gap on Mine Ridge, the summit between West Brandywine, and at a point about a mile northwest of the Spread Eagle tavern on the Philadelphia turnpike. Not only would the line be shortened 2½ miles, and the graduations from these points be diminished, but the saving in expense in the first cost of the railway, would amount to

about fifty thousand dollars. I am not, however, at present prepared to say, whether this difference of cost, would be an equivalent to that of maintaining and keeping in repair, the steam engines. This will form a subject for consideration and calculation upon the location of the road.

In tracing the lines as detailed in the different sections in the preliminary report submitted to the board, the operation was so conducted as to render the expense of forming the road, a moderate one.

In some instances, embankments and cuttings were avoided, the expense of which, however, in the actual location, would have been equivalent to the increased length of railway.

I have, therefore, no hesitation in saying, that in the final location of the line from Columbia to Philadelphia, the amount of distance derived, in adding together the lengths of the various sections in the table, may be considered as the true length of the line of railway from Susquehanna to Schuylkill rivers.

All which is respectfully submitted.

Signed,

JOHN WILSON.

Philadelphia, Jan. 12, 1828.

TRIAL OF A WITCH.

In our first number we published the indictment of two persons for witchcraft. The "Blairsville Record" has published the whole trial, copied from the records at Harrisburgh by a correspondent, and is as follows: It appears the charge of the Governor is not to be found.

"At a Council held at Philadelphia ye 27th of the 12th month 1683.

Present

Wm. Penn, Propr. and Govr.

James Harrison	Chris. Taylor
Wm. Biles	Wm. Clayton
Lasse Cock	Tho. Holmes
Wm. Haigue	

The Grand jury being attested. The Govr. gave them their charge and the Atturney Gen. *all* attended them with the presentmt. Their names are as followed.

Robt. Euer, foreman, Saml. Carpenter, Andrew Griscom, Benj. Whiteman, Jno. Barnes, Saml. Allen, Jno. Parsons, Rich. Orne, Jno. Day, Jno. ffiisher, Jno. Barnes, Gunner Rambo, Enock flower, Henr. Drystreet, Tho. Mosse, Tho. Duckett, Dennis Lince, Tho. Philips, Tho. Millard, Jno. Yattman, Harnaby Wilcox.

Postmeridiem.

The grand Jury made their return and found the Bill. Ordered that those that were absent of the Petty Jury should be fined 40s. each man.

Margarit Matson's Indictment was read and she pleads not guilty and will be tryed by the countrey.

Lasse Cock attested Interpriter between the Propr. and the Prisoner at the Barr.

The Petty Jury Impanneled their names are as followed.

Jno. Hasting, foreman, Robt. Wade, Wm. Hewes, Jno. Gibbons, Albortus Hendrickson, Nath. Evans, Jer. Collett, Walter Martin, Robert Piles, Edwd. Carter, Kinsman, Jno. Edwd. Bezac.

Henry Drystreet attested, saith, he was tould 20 years agoe that the prisoner at the Barr was a witch and that severall cows were betwicht by her, also that James Saunderling's mother tould that she betwicht her cow but afterwards said it was a mistake and that her cow should doe well againe for it was not her cow but another persons that should dye.

Charles Ashcom attested, saith, that Anthony's wife being asked why she sould her cattle was because he mother had bewitcht them having taken the witchcraft of *of* Hendrick's cattle and put it on their, Oxon she myght keep but noe other cattle; and also that one night the Daughter of the Prisoner called him up hastily and when he came she sayd there was a great Light but just before and an old woman with a knife in her hand at ye Bedds feet and therefore shee cryed out and desired Jno. Symcock to take away his calves or else she would send them to Hell.

James Claypoole attested Interpritor betwixt the Propr. and the Prisoner.

The affidavid of Jno. Vanculin read, Charles Ashcom being a witness to it.

Annakey Coolin attested saith her husband tooke the heart of a calfe that dyed as they thought by witchcraft and Boyled it whereupon the Prisoner at ye Barr came in and asked them what they were doing, they said boyling of flesh, she said they had better they had boyled the bones with severall other unseemly Expressions.

Margaret Mattson saith that she values not Drystreets Evidence but if Saunderlins mother had come she would have answered her also denyeth Charles Ashcoms attestation at her soul and saith where is my daughter lett her come and say so.

Annakey Coolings attestation concerning the Gees she denyeth saying she was never out of her conoo, and also that she never said any such things concerning the calves heart.

Jno. Cock attested, sayeth he knows nothing of the matter. Tho. Baldings attestation was read and Tho. Bracy attested, saith it is a true coppy.

The Prisoner denyeth all things and saith that ye witnesses speake only by hear say.

After which ye Govr. gave the jury their charge concerning ye Prisoner at ye Barr.

The jury went forth and upon their Returne brought her in Guilty of having the common fame of a witch, but not Guilty in the manner and forme as she stands indicted.

Neels Mattson and Anthon. Nelson Enters into Recognisance of 2fifts pounds a *peice* for the good behavior of Margaret Mattson for six months.

Book A. page 45.

CHRIST CHURCH STEEPLE AND BELLS

Almost every stranger who visits our city, immediately remarks, as a defect, "that we have no steeples." It it is remarkable, that so little attention has been paid to this subject in our city, while every other city and almost every country town, presents one or more steeples as the first objects which strike the attention of the traveller, and inform him of his approach to the place of his destination. Every person who has travelled through New England, has no doubt experienced great pleasure on entering the numerous villages in the summer season, from the beautiful contrast of the white steeple and green foliage. There are about 90 houses of public worship in this city, and only two or three steeples. Where so much expense and care are devoted to the embellishment of the city by public buildings, we presume it would not be impracticable to raise a sufficient sum, for the purpose of adding steeples to some of the churches, if proper measures were adopted, and the congregations are not able to do it from their own resources. In former times, our ancestors had more pride on this subject or more liberality, than we appear to possess. So long ago as 1754, Christ Church Steeple was erected, and in the same year, an agreement was made for the steeple that formerly was attached to the 2d Presbyterian Church. In looking over a file of papers for 1755, we met with the following account of the cost of Christ Church Steple and Bells, which has induced us to make the foregoing remarks. The Bells it appears were employed,

on joyful occasions, to add to the general expression of public feeling; and the governor even could not approach the city, without this public notice of it to the citizens. The bells were brought over by Captain Budden, who charged no freight upon them; and they usually announced his arrival at subsequent periods. We observe that a committee of Councils has been appointed to cause a survey to be made on the base of the state house steeple, for the purpose of erecting a clock and bell—we trust the occasion will be improved, to add a steeple to it, as high as the foundation will chiefly support.

On the approach of the enemy during the revolution, the bells of the city were all removed by the Commissary General of military stores; and it appears by a notice in the Pennsylvania Evening Post, Aug. 22, 1778, that they were "all returned safe and again hung," which was shortly after the evacuation.

"As considerable sums of money have lately been raised in this city, by subscription and two lotteries for the finishing the steeple, and purchasing a ring of bells, the vestry have thought proper to examine the treasurer's accounts, and after carefully inspecting the same, find the state of them to be as follows, which they think proper to publish for the satisfaction of the public.

By order of the vestry,

GEORGE OXELL, and JNO. BAYNTON, } Wardens.

The Steeple and Bells of Christ Church Dr.

To Sundry disbursements from May 10, 1751 to Nov. 1754, viz:

	£	s.	d.
Boards, timber, copper, ropes, lead, shingles, &c.	425	4	0½
Laborer's wages, flatting, carting, &c.	343	13	5½
Sundry small articles	59	1	0
Lime	111	0	9
Stones	138	3	8
Masons and bricklayers	303	1	2
Sand	19	7	6
Bricks	141	17	1
Carpenters	426	19	11
Smith	130	2	10
Painter (in part)	50	1	6
Loss on gold	3	4	3
Do. on bar iron	2	0	0
To £450 stg. sent home to purchase the Bells in part at 62½ per ct.	731	3	0
To £110 10s. stg. more advanced by the vestry to balance the first cost of the bells	183	16	9
	£3068	18	11

Sept. 20, 1752. Cr.

By subscriptions received to this date	921	0	0
nett proceeds of first Lottery	1000	6	9
Do second do	944	17	7
sundry subscriptions rec'd since the above	75	17	7
	2942	1	11
Bal. now due vestry	126	17	0
Total	£3068	18	11

[*Penn. Gaz. Jan.* 7, 1755.

On Sunday last the honorable James D. Lancey, Esq. Gov. of N. York, and on Monday his excellency Wm. Shirley, Esq. Gov. of Boston, and his honor, our Governor, returned here from the general Congress at Alexandria. At their entering the city, they were complimented with a peal of the new sett of eight bells* in Christ Church steeple. This musical peal was cast by Lester and Pack, who are at present the most noted and ingenious artists of that kind in England. They were hung by Nicholas Nicholson, a native of Yorkshire, in a manner the most convenient, and entirely new. And when a clock for the chimes is added, which he seems very desirous of, they will be the compleatest sett in America.

They were likewise saluted with a round of twenty-one Brass Guns.—*Ib. Ap.* 24, 1755.

* It is stated in the Gazettes of 1824, that the tenor weighs 1800 lbs. and the whole weigh 8000 lbs.

MAIL ESTABLISHMENTS.

Few circumstances tend more to exhibit the improving condition of a country than the progressive changes made in the conveyance of the mail. The following advertisements show how little intercourse was maintained with the eastern states in 1755, when an answer could not be received to a letter in less than six weeks, which is now accomplished in six days. At the present day, a letter can be sent from one extremity of the U. States to the other and a reply be received, in less time than was then required for the distance of only about three hundred miles.

GENERAL POST OFFICE.

Philadelphia, Feb. 11, 1755.

It having been found very inconvenient to persons concerned in trade, that the mail from *Philadelphia to New England* sets out once a fortnight during the winter season: This is to give notice, that the New England mail will henceforth go once a week, the year round, whereby correspondence may be carried on and answers obtained to letters between *Philad. and Boston* in three weeks, which used in the winter, to require six weeks. By command of the D. Postmaster General.

WILLIAM FRANKLIN,
Comptroller.

[*Penn. Gaz.* 1755.]

GENERAL POST OFFICE.

Philadelphia, Mar. 25, 1755.

This is to give notice that for the future the Posts will go *twice* a week between *Philad. and New York*, and for that purpose will set out from both those places precisely at *ten* o'clock in the morning on every *Monday* and *Thursday*; and will come in on every *Wednesday* and *Saturday* noon, throughout the year. By order of the Post Master General.

WILLIAM FRANKLIN,
Comptroller.

Ibid.

May 15, 1755.

The new post between Philadelphia and Winchester, Virg'a. set out from the Post Office this morning, to continue his weekly stages, setting out every Thursday morning during the summer.—*Ibid.*

Freedom of Speech.

"We hear from Chester, that at the Court of Quarter Sessions held there last week, an indictment was presented to the Grand Jury, and found by them against one James Castello, for speaking the following seditious words, viz: "King George has no more right to the crown of Great Britain than I, and if he had his deserts, he would have his neck cut off.—I have a sum of money with me and will give half a crown a day to each man that will go with me and join the French King and the Pretender." To which he pleaded guilty, and begged the mercy of the Court. Whereupon he received sentence as follows: "That he should stand one hour in the pillory on Thursday, and the same time on Friday; with these words fixed on his back—*I stand here for speaking seditious words against the best of Kings.*" Which sentence was accordingly put in execution.—*Ib.*

ANNALS OF PHILADELPHIA.

From the recovered minutes of the Common Council, from 1704 to 1776; extracted for the Pennsylvania Gazette.

1st Jan'y. 1704.

Some disputes having heretofore arisen concerning the city seal in whose hands it ought to lodge, and it being now put to the vote, whether it ought to be kept by the mayor or town clerk, it pass'd that it ought to be kept by the mayor, but that he might intrust it in the clerk's hands if he thought fitt.

2nd Feb'y. 1704.—[First division of the city into wards.]—Aldermen Willcox, Carter, &c. who were appointed by an order of the last Common Council to divide the city into wards, and to report the same to this Council, report that they have divided this city into wards, and have returned the same under their hands as follows.

1. Dock Ward—All the inhabitants between Delaware river and the 7th street, to the southward of Wallnut street, including the south side of Wallnut st.

2. Wallnut Ward—All the inhabitants between Wallnut and Chesnutt streets, from the west side of the Front to the east side of the 2nd st. (inclusive.)

3. Chesnutt Ward—All the inhabitants between Chesnutt and High streets, from the Front to the 2d st.

4. Lower Delaware Ward—All the inhabitants between the front Street and Delaware River, from the end of Wallnut to the end of High Street, both upon and under the Bank.

5. Upper Delaware Ward—All the inhabitants between the front street and Delaware River from High street to the north end of the city.

6. High Street Ward—All the inhabitants between High street and Mulberry street, from the front to the 2d st.

7. Mulberry Ward—All the inhabitants on the north side of Mulberry street to the extent of the city from the front to the 7th street.

8. North Ward—All the Inhabitants between Mulbury and High streets from the 2d to the 7th street.

9. Middle Ward—All the Inhabitants between High street and Chesnutt street, from ye 2d to the 7th street.

10. South Ward—All the Inhabitants between Chesnutt and Walnut street, from the 2d to the 7th street.

Which wards, as they now are named and set out, are approved by this Council.

It being moved in this councill that that part of the city between Broad street and Delaware be grub'd and clean'd from all its rubish, in order to produce English grass, which would be a great use and advantage to the inhabitants keeping cattle therein. It is ordered that some proper method be thought upon for the doing thereof by Alderman Shippen, &c.

It is ordered that the cryer take an account of all the inhabitants of this city, keeping cows, and give an account of their names, and number of cows they keep upwards of two years old.

9 April, 1705.

James Bingham is this day admitted a freeman, paying for the same £3. 2*s*. 6*d*. which he accepted and signed.

Samuel Savage is admitted a freeman, and paid for the same £1. 2*s*. 6*d*.

Matthew Robinson is admitted a freeman at 2*s*. 6*d*.

(Similar notices are of constant occurrence.)

1st June, 1705.

It is ordered that Thomas Bowden, collector of the cow money, pay into the hands of Edward Shippen, all such money as he has already collected for the same, who shall pay the same unto Henry Badcock and John Budd, in part of their payment:

13th July, 1705.—Several of the Members of this Corporation having, notwithstanding an order of Comon Councill, (enjoining that every member shall come at the time appointed, or within one hour after, on the penalty of the forfeiture of three shillings for every offence,) absented themselves, and not giving their due attendance, yet this Council, for reasons not offer'd, have remitted to the persons delinquent their respective forfeitures before this day. And do now order that henceforward the said order shall be duly and strictly put in execusion.

Alderman Masters, Alderman Jones, Tho's. Pascall, &c. &c. not appearing at this Council, are fined 3*s*. apiece.

It is ordered that Alderman Carter & John Parsons do oversee the Repairs of the Old Cage, to be converted into a Watch house for present occasion.

14th Augt. 1705.—It is ordered that the treasurer do out of the Public Stock, Provide Books for the keeping of his Accounts and that he provide the same with all expedition.

21st Sept. 1705.—Alderman Caster is continued to see the Repairs of the Watchhouse, and is also appointed to take care of the building a pair of Stocks, with a whipping post and pillory with all expedition, which shall be paid for out of the treasury.

It is ordered that the Mayor, Recorder, and Alderman Wilcox, (taking with them such persons of the respective Religious persuasions of this city as they shall think proper,) apply themselves to the Commissioners of property for a publick piece of ground in this city, for a burying place for strangers dying in this city.

29 Sepr. 1705.

It is ordered that the Beadle and Constables of this City Give Notice to the freemen of the same, to appear on Monday Morning at the hour of eight, to be informed of their privileges as to Elections of their representatives that day, to serve in Generall assembly for this city for the Year Ensuing. 8 Oct. 1705. Joseph Wilcox, Mayor.

29 Decr. 1705.

Richard Roberts having worked at Raising the ground in the Market place, for which there is due to him Three Shillings and six pence, the Treasurer is ordered to pay the same and take a Receipt for the same.

A petition from Joh. Cropp, for an Ordinance to encourage him for setting up a publick Slaughter House—and settling the rate for Killing Cattle, &c. therein was read.

Ordered, that the Treasurer pay to Solomon Cresson 10*s*. for the making of 12 Watchmen's Staves & 2 Constables staves; & Also 3*s*. to Enoch Story for the painting of three Constables Staves.

29 April, 1706—Joseph Wilcox, Mayor.

Alderman Griffith Jones, John Jones & Saml. Richardson, having bought several brass weights, being 112 lb. of Humfry Murray for the use of the Corporation, and having given their Bill or note for the Money to the sd. Murray, being in the whole Twelve pounds, Twelve shillings, or thereabouts. It is therefore ordered that the said Griffith Jones, John Jones & Saml. Richardson, be repaid out of the publick stock of this Corporation, and this Corporation will Indemnifie them and every of them for all costs and damages that may come upon them by reason of their being obliged as aforesaid, and that they have the Corporation's obligations for the same.

Ordered, that the Beadle collect from the Inhabitants of this city, the sum of 6d for every Milch Cow by them kept, and pay the same to the Treasurer.

The following extract exhibits as lively a picture of primitive Philadelphia, as can any where be found.

15 May, 1706.

Whereas, the Governor having received an express from the Governor of Maryland of several vessels lately seen some few leagues off the Capes of Virginia, and two of them chassing and firing several shots at an English vessel bound to Virginia or Maryland, which are supposed to be French vessels, and probably may have a design upon some of the Queen's colonies. It is therefore ordered that the watch of the city be carefully and duly

kept; and that the constable, at their peril, take care of the same: and in case there appear any show or danger of the enemy, that they give the alarm by ringing the market bell; and that every night one of the Aldermen see the watch, and see that two constables be set thereon, till further order.

1st October, 1706.

Alderman Story, refusing to accept of the office of Mayor, therefore, he is fined by this Common Council, the sum of twenty pounds.

This Council p'ceeded to another Vote for the Election of the Mayor, and Alderman Nathan Stansbury was elected by a Majority of Votes, who accepted thereof.

13, Jany, 1707.

Wm. Carter, Thos. Masters, Joseph Yard, & John Redman, are appointed to view the Hollow in the head of Chesnutt st. Crossing the fifth street, & take the best methods for making good the same,and giving the water a free passage.

11, Feby. 1708. T. Masters, Mayor.

Ordered, that this Corporation do treat the Govr. as usual upon the Arrival of ye sd. Govenour, and that the Treasurer defray the charge out of the publick money. *Penn. Gaz.*

UNION CANAL LOTTERY.

Report of the Committee of Ways and Means.

Read in the House of Representatives, Feb. 9, 1823.

The committee on ways and means to whom were referred a resolution instructing the committee to inquire into the expediency of repealing the several acts of assembly, which authorise the Union canal company to raise by way of lottery a certain sum of money, and also into the expediency of making further provision for preventing the sale of foreign lottery tickets within this commonwealth,

REPORT:

That with a view to a full investigation of the subject of inquiry embraced in the aforesaid resolution, and in order to afford the Union canal company and Messrs. Yeats & M'Intyre, the managers of the lotteries connected therewith, an opportunity to be heard in a matter that so materially interested them, the committee named a day for a hearing and gave them notice accordingly. At which time James C. Biddle, Esq. of Philadelphia, appeared on behalf of the Union canal company and of Messrs. Yates & M'Intyre, before the committee, and stated very fully the objection of the said Union canal company and the said Yeats & M'Intyre, to the repeal of the laws authorising the said company to raise money by way of lottery, which they alledge would operate unjustly on the parties concerned, viz: The stockholders of the old and new stock, the holders of the loan and the lottery managers.

In order to a correct understanding of the subjects, it will be necessary to refer to the several acts of assembly relating to the lottery grants.

By the act of the 17th April, 1795, the president and managers of the Schuylkill and Susquehanna navigation and the president and managers of the Delaware and Schuylkill canal navigation, were authorised to raise by way of lottery, a sum of $400,000 for the purpose of completing the works in their acts of incorporation mentioned, under a prohibition, that neither of them should form the same into capital stock, upon which to declare a dividend of profits. And by the act of fourth March, 1807, the said companies were authorised to raise their respective sums separately, subject to the like prohibition as to dividends thereupon, but the same to be considerd as a bounty to said corporations, to enable them to make the tolls as low as possible.

The two companies by the act of second April, 1811, were consolidated and incorporated by the name of the Union Canal Company of Pennsylvania; and were authorised on such terms and conditions as they might think fit, to raise by way of loan, such sums of money as they may find expedient, for the completion of the canal upon the credit of the capital stock, including the neat proceeds and avails of the lotteries thereby authorised, and to mortgage any part or the whole of their property, tolls, profits or estates whatsoever. And by the 28th section of the same act, authority was given to said company to raise the residue of the original sum equal to 340,000 dollars, by lottery and to sell and assign the right to raise the said residue or any part thereof, and that such assignments shall vest for the term they shall so acquire,with the same rights and privileges as the said corporation and the profits arising from said lotteries, shall not form capital stock upon which dividend shall be made but shall be considered as a bounty to enable them to make the tolls as low as possible.

By the 3d section of the act of 29th March, 1819, the avails and neat proceeds of lottery granted by the 28th section of the act of 1811, were pledged as a fund for the payment of an annual interest of six per cent. upon sums subscribed under this act. The shares not forfeited in the old companies were placed on the same footing.

By the 8th section of the same act all right and tittle to any and every kind of property which belonged to the late Delaware and Schuylkill, and Schuylkill and Susquehanna canal companies, which is now held or may hereafter be acquired by the said Union canal company, by lottery or otherwise, shall be held in common by the old and new subscriber, and the said property was thereby vested in the two classes of stockholders, and a full and entire participation in every advantage to be derived therefrom.

And by the 9th section of the same act, whenever the avails or neat proceeds of the lottery shall exceed the amount of the sum required by said act to pay the intrest as is directed by the 3d section, such excess shall go into the capital stock and to be invested, if not wanted to complete the works in the United States or other safe funds, and it was made lawful to make dividends on the interest arising therefrom.

The act of 1824, guarantees interest on 2,250 shares, amounting to 450,000 dollars for 25 years, if the proceeds of the lottery granted to the Union canal company, and tolls shall not yield a sum sufficient; and in order to avoid as far as possible all disability to pay such interest, so much of the 3d section of the act of 1819 as pledges any part of the avails or neat proceeds of the lottery aforesaid to the payment of interest to the holders of old shares, is thereby suspended until the canal shall be completed, and the said company are authorised to continue during the said term of 25 years, to raise by way of lottery any sums that may be wanted for the purpose of paying to the holders of the said stock six per cent. aforesaid. Provided, that whenever the neat proceeds of the tolls shall amount to said six per cent. the privilege thereby granted of raising money by lottery shall during such time be suspended, except so far as is authorised by existing laws, and it shall in no event be lawful to divide any sum arising from said lottery over and above six per cent. upon the stock of said company, it being the intent and meaning of the act that all such excess shall be reserved to meet any deficiency thereof that may at any time occur in the tolls as aforesaid. If any payment of interest be made by the commonwealth equivalent to share or shares the commonwealth should be entitled to a certificate of stock therefor.

The guarantee of interest to cease if the navigation be not completed in ten years after interest shall first accrue.

From the foregoing extracts of the several acts of assembly, it appears that the lottery grants were given in the first instance, to the two companies and afterwards continued to the Union Canal Company, to aid and encourage the construction and completion of a canal and lock navigation, uniting the waters of the Susquehanna and Schuylkill, and that in concequence of those grants individuals were induced to invest their funds in the fur-

therance of the work, and loans to the amount of 830,400 dollars were made under the authority given by the act of 2d April 1811, upon the credit of the capital stock, including the neat proceeds and avails of lotteries and property tolls, and profits of the company, which stands pledged therefor, and that a resumption of the lottery grants or a repeal of the laws authorising them would materially interfere with vested rights and operate unjustly upon three distinct classes of persons having vested rights in said company, viz: the stockholders of the old and new stock, the holders of the loan and the managers of the lottery. The committee will not enlarge upon the nature and extent of the injury that these description of persons might be subjected to, nor will they say to what extent it would impart confidence in the faith of the legislative enactments, and to the injury of the character of the commonwealth.

The act of 1811, (28th section) authorises the company to sell and assign the right to raise money, by way of lottery, and vests the right of the company in the assignee, during the continuance of the contract. In pursuance of the authority thus granted, the company entered into a written contract, dated the 6th of October, 1824, with Archibald M'Intyre, by which the right to raise money, by way of lottery in Pennsylvania, was transferred to the said Archibald M'Intyre, for the sum of 150,000 dollars—64,000 dollars of which remains to be raised, in order to complete the contract, which will expire on the 31st of December, 1829, when the whole amount authorized to be raised by lottery will have been completed, such being the actual situation of the case, a resumption of the lottery grants cannot at this time be made without an infringement of the constitutional provision in relation to contracts.

Messrs. Yates and M'Intyre, the present lottery managers, are citizens of another state, and nothing is alleged, or appears against their conduct, in the management of that concern, but on the contrary, it appears that they have acted fairly and honourably in the fulfilment of their engagements, neither has it appeared that the stockholders, nor the president and managers have done any thing to require the interposition of the legislature; and the committee think it but justice to say, that the president and managers of the Union Canal Company have performed their duty with fidelity, the great work committed to their charge has been brought to a completion and their labours bid fair to be crowned with merited success. It is a work in which the commonwealth at large have a deep interest, and as a stockholder to the amount of 50,000 dollars. It is now confidently believed that the canal will be brought into operation early in the next spring, and it may be fairly presumed, that the receipt of tolls will yield a profit sufficient to pay the interest on the whole cost of the work, and that the succeeding year will probably give an increased amount of profits over and above the interest.

And a confident hope may be indulged, that at the expiration of the lottery contract with Messrs. Yates and M'Intyre, the company will be enabled, and it may be presumed they will be perfectly willing, to relinquish altogether the lottery privileges granted them.

If this reasonable expectation should not be acceded to on their part, it would then be a proper time for the legislature to take such measures to put an end to the lottery grants to said company, as might be consistent with justice, propriety and expediency.

There are several acts of assembly in force for the suppressing and preventing of lotteries one of a date so early as the year 1792, and by the act incorporating the Union Canal Company, passed the second day of April 1811, it is provided that any person or persons who shall sell or expose to sale, or shall advertise or cause to be advertised for sale any lottery tickets, not authorised by the laws of this commonwealth, and shall be aiding and assisting, or in any wise concerned in the sale of such tickets, or in the managing, conducting or carrying on any lottery or devise in the nature of a lottery not authorised as aforesaid, such person or persons on conviction shall forfeit and pay a fine at the discretion of the court, not exceeding 2,000 dollars, to the president and treasurer of the Union Canal Company, to be by them applied to the sinking fund.

Notwithstanding the prohibition and penalties imposed by existing laws, the practice of selling foreign lottery tickets, notoriously prevails to a great extent, and it may be presumed, that whilst the lottery privileges granted to the Union Canal company exist, it will be difficult to suppress effectually the sale of foreign lottery tickets in this state, as it must be evident that facilities are thereby afforded to evade the laws, superadded by the temptation to do so.

The evil tendency of lotteries are very much to be deprecated, and a desire is very prevalent to eradicate them, and the period of the expiration of the contract between the lottery managers and the Union Canal company, may be confidently looked to, when the legislature will interpose their authority in such a manner as will ensure a total suppression of them.

Whether it is owing to the inadequacy of the existing laws, or from reluctance in the citizens to appear in the character of informers, or whatever may be the cause, it is not easy to determine, but it may be inferred, that severe penalties would, under existing circumstances be alike unavailing.

The committee, from these causes are constrained to recommend the adoption of measures that would tend to restrain and lessen existing evils, by permitting persons of fair character, under security and payment of a sum of money to the commonwealth therefor, to sell lottery tickets, the permission only to extend to the sale of tickets in lotteries authorised by the laws of this state and for one year only, and prohibiting under suitable penalties, hawking and pedling lottery tickets of every description.

A measure of this description it is presumed, would greatly lessen the number of lottery offices, and prevent gross impositions practised by pedlars of tickets.

The objection to this measure is that it gives the sanction of the law to lotteries, but it may be observed that the sanction of the law already exists and must continue to exist at least until 31st December, 1829, when it is to be hoped measures will be taken for the total eradication of them.

The committee, therefore, submitted the following resolutions for the consideration of the house.

Resolved, That it is expedient to resume the lottery grants to the Union Canal company at this time.

Resolved, That the committee be instructed to bring in a bill to regulate lottery brokers, and to restrain the sale of lottery tickets within this commonwealth.

Import of Grain 1793.

Return of Grain brought into the Port of Philadelphia.

Wheat	460,053½ bushels.	Barley	16,539½
Corn	252,428⅞	Peas and Beans	1,193
Rye	2,277½		
Oats	10,180		742,672

Benj. Davis, *Head Measurer.*

In the county of Washington, Pennsylvania, there are 7,466 full blooded sheep, 6319 mixed merino, and 62,274 common sheep—total 134,079—increase last year 23,628. This laudable attention to wool-growing is worthy of imitation.

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